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(54) **PACKET TRANSFER METHOD AND NODE DEVICE USING RESOURCE RESERVATION OR PRIORITY TRANSFER CONTROL WITHOUT REQUIRING VIRTUAL CONNECTION MERGING**

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(58) **Field of Search** **709/200-205, 709/213, 223, 227-228, 232, 238-240, 244-245; 370/395-401, 409, 235**

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(57) **ABSTRACT**

A packet transfer method at a node device in which the virtual channel merging is unnecessary at the label switch router even when the communication resource reservation or the high priority transfer is requested is disclosed. At each node, one or more virtual channels for a specific flow are set up toward all receivers regardless of whether each receiver requested a communication quality for the specific flow or not, upon receiving a message used in a procedure for reserving the communication quality for the specific flow that is transmitted from an upstream side to a downstream side on a route of the specific flow toward the receivers. Else, at each node, one virtual channel for a specific flow is set up toward at least one receiver, and transmitting messages indicating a need to set up virtual channels for the specific flow toward other receivers on a downstream side, upon receiving a message for requesting a communication quality for the specific flow that is transmitted from that at least one receiver to the sender toward an upstream side, such that a separate virtual channel set up procedure for setting up virtual channels for the specific flow toward the other receivers is activated among nodes on a route of the specific flow. Then, at each intermediate node, a transfer processing at a layer lower than a network layer is carried out according to a corresponding among the virtual channels.

20 Claims, 12 Drawing Sheets

